

**Snowflake White Mountain Power
Permit Number: 36183
Biomass Generating Station
Responsiveness Summary to Public Comments**

Reply to comments made at the public hearing held on November 2, 2005.

One commenter was asked if any other fuels would be burned other than fiber and wood.

The permit only allows for the burning of fiber, wood, and natural gas. The facility is not permitted to use any other fuels.

There was a concern expressed about the variability of the fuel mix (between fiber and wood).

The fuel introduced into the boiler will be a fairly consistent mix of fiber and wood. This will be kept constant in order to optimize the operation of the boiler and to reduce variability in terms of fuel feed and emissions of regulated air pollutants.

One commenter asked how the emissions from the Snowflake White Mountain Power facility will compare to the Abitibi Paper Mill.

The following table shows a comparison between the potential emissions from the Snowflake White Mountain Power (SWMP) facility and the Abitibi paper mill. As can be seen in the table, with the exception of carbon monoxide (CO) the emissions from the SWMP facility are only a fraction of the paper mill emissions.

Pollutants	SWMP Facility potential emissions (tons per year)	Abitibi Paper Mill emissions (tons per year)
NO_x	240 ¹	4,860
SO_x	225 ¹	5,918.5
CO	225 ¹	263
PM₁₀	48.96	1,290
VOC	22.07	1,350

¹ based on permit limits

A question was asked about whether the construction of the wood-fired boiler would cause the paper mill to shut down their coal-fired boilers.

The construction and operation of the SWMP biomass boiler is unrelated to how the Abitibi paper mill operates its coal-fired boilers. SWMP has explained to the Department that the company has entered into contracts to sell the electricity that is generated from the boiler to APS and SRP, and not to Abitibi. Therefore the Department has determined that permitting the wood-fired boiler will not have a direct impact on the operations of Abitibi's coal-fired boilers.

One commenter asked where the power from the Snowflake White Mountain Power facility would go.

According to the company, the power generated at the facility will be sent to the grid where it will be sold to and then managed by APS and SRP.

A concern was expressed regarding the age of the proposed equipment and why newer equipment, representing the latest technology, would not be used.

The capacity of the Air Quality Division in this permitting process is to thoroughly review the proposed air emissions from the facility, the air quality impacts from those emissions, and issue an air quality permit only when that review shows that the source meets all state and federal regulations pertaining to air quality. The Department has reviewed the emissions and the impacts from those emissions and has determined that SWMP, using its proposed equipment, meets all the state and federal regulations that are applicable to the facility. For a source such as this, the Department has no authority to specify the type or age of the equipment being operated as long as all state and federal requirements are met.

A concern was expressed about the frequency of the opacity monitoring, including a question of why daily monitoring is not required in the permit.

The permit requires that the company perform an EPA Reference Method 9 opacity observation once each month. In general, measurement of opacity has been used by many regulatory agencies as a substitute for direct measurement of particulate matter emissions. While there is no direct correlation between the opacity of a plume and the amount of particulate matter being emitted, it is reasonable to suspect that particulate matter emissions increase when the opacity of a plume increases.

Since the permit requires the company to install a baghouse to control emissions of particulate matter, it is not expected that the facility will have episodes of high opacity. Since most baghouses are 95% to 99% effective at capturing particulate matter, the Department has determined that it is reasonable to expect that emissions of particulate matter will be low.

In addition, the facility is required to install monitoring devices on the baghouse to measure the pressure drop across the bags. This system will indicate any broken or leaking bags in the baghouse. The pressure will be monitored continuously, and if the measured pressure is outside of the tolerances described in the permit, then the Permittee is required to take corrective action. In addition to this periodic monitoring, the company will also be required to quantify their exact particulate emissions by means of a performance test once each year.

Based on the above information, the Department has determined that monthly monitoring of the opacity from the stack is sufficient to provide reasonable assurance of compliance with the opacity limit.

There was a concern about the frequency of testing required for NO_x and CO not being adequate.

For NO_x the permit requires the company to install a continuous emissions monitor (CEM) to track emissions. A CEM system is the most stringent form of emissions monitoring that is currently available. The system will make an instantaneous measurement of NO_x emissions once every 15 minutes. This information is then fed to a computer system which tallies all of the readings to give on-going, current information about the exact amount of NO_x that the facility is emitting. In order to ensure that this information is accurate, ADEQ's rules require the source to conduct an annual performance test, called a Relative Accuracy Test Audit (RATA), to ensure that the equipment is properly calibrated. Additionally, the facility is required to conduct quarterly audits to ensure that the equipment is functioning properly. The result is that compliance with the NO_x emissions limitation in the permit will be demonstrated every hour of every year.

The company has also agreed to install a CEM system to monitor CO emissions. This decision by the company to install the CEM system was made after the close of the public notice period. The CEM system for CO will be subject to the same requirements as NO_x listed in the preceding paragraph.

A concern was expressed about the lack of SO_x controls and only annual testing in the permit.

The Department has reviewed the estimated sulfur oxide (SO_x) emissions from the facility and the impacts from those emissions and has determined that SWMP, using its proposed equipment, meets all the state and federal regulations that are applicable to the facility. For a source such as this, the Department has no authority to specify additional controls for SO_x as long as all state and federal requirements are met.

The company has agreed to install a CEM system to monitor SO₂ emissions. This decision by the company to install the CEM system was made after the close of the public notice period. The CEM system for SO₂ will be subject to the same requirements as NO_x and CO listed in the preceding comment.

There was a concern expressed about the sulfur dioxide emissions from the facility impacting the Pinedale area.

The sulfur dioxide (SO₂) emissions from the SWMP facility are limited by the permit to 225 tons per year. This emission rate was used to perform an ambient air quality impact analysis. The results of the analysis are contained on page 8 of the Technical Support Document. The analysis for SO₂ shows that the facility is expected to meet the National Ambient Air Quality Standard (NAAQS) set by the Federal Government. In addition, the impact analysis shows that there will only be minimal impacts beyond the Abitibi paper mill fenceline. The impacts decrease as one moves further away from the plant. Based upon the modeling analysis described in the technical support document, ADEQ has determined that there should not be any significant impacts to the Pinedale area.

There was a question raised about whether SO_x results in a smell that is similar to rotten egg gas.

Odor issues are a significant concern to ADEQ, and ADEQ has ensured that the appropriate odor requirements from A.A.C. R18-2-730 have been included in the proposed permit. In general, however, sulfur oxides, and specifically SO₂, typically do not have an odor of rotten eggs. The smell of rotten egg gas is typically from hydrogen sulfide, which is not expected to be emitted in significant quantities by this facility. Although the National Institute for Occupational Safety and Health (NIOSH) states that SO₂ does have a pungent, irritating odor, most literature sources indicate that the smell of SO₂ is similar to the smell of a just-struck match.

There was a concern about the lack of emission limitations or monitoring for VOC or HAPs in the permit.

The proposed facility has the potential to emit 22.07 tons per year of volatile organic compounds (VOC). At this level, there are no applicable requirements which would require a permit limit or monitoring. The same is true for the hazardous air pollutants, which are estimated to be emitted at a combined 12.14 tons per year. However, to ensure that the hazardous air pollutants are below the threshold that would add additional requirements to the permit, the Department has included limits in the permit that will keep the facility's emissions below 9 tons per year for any single HAP or 22.5 tons per year for combined HAPs. Compliance with these limits will be determined by annual performance tests.

While there are no limits or monitoring required by the permit, the company is required to conduct a performance test for VOC once during the permit term. This testing is being required to ensure that the assumptions used during the permitting process are representative of actual boiler performance.